



State of California—Health and Human Services Agency
Department of Health Services



ARNOLD SCHWARZENEGGER
Governor

February 4, 2004

Update on Influenza A (H5N1) and SARS: Recommendations for Enhanced Surveillance, Testing, and Infection Control

On January 15, 2004, the California Department of Health Services (CDHS) issued recommendations for enhanced surveillance for severe acute respiratory syndrome (SARS) and avian influenza. On February 3, 2004, CDC issued a Health Alert Network message regarding these diseases (available at www.cdc.gov/flu/han020302.htm), and consequently CDHS has revised these recommendations. The principal changes are:

- enhanced surveillance due to an increase in the scope of avian influenza,
- expanding surveillance to include those with milder illness and history of contact with domestic poultry or a human case of influenza A (H5N1),
- advice on laboratory testing, particularly in regard to biosafety, and
- infection control precautions for Influenza A (H5N1).

Influenza A (H5N1) Virus Infections

Infections with influenza A (H5N1) in poultry have been confirmed in Cambodia, China, Hong Kong SAR, Indonesia, Japan, Korea, Laos, Thailand, and Vietnam (for a continually updated listing of affected countries, visit the Web site of the World Organization of Animal Health (OIE) at http://www.oie.int/eng/en_index.htm).

Human cases of influenza A (H5N1) infection have occurred in Vietnam and Thailand. On February 1, 2004, the World Health Organization (WHO) reported that laboratory test results had confirmed fatal H5N1 infections in Vietnam in two sisters who are part of a cluster of four cases of severe respiratory illness in a single family. This cluster is currently under investigation and at this time **limited human-to-human transmission may be one possible explanation, but direct poultry-to-human transmission cannot be ruled out**, according to WHO. To date, 10 laboratory-confirmed cases of H5N1 infection have been reported in patients in Vietnam, 8 of whom died. In Thailand, cases of H5N1 infection have been confirmed in 4 persons, 3 of whom died. Laboratory results on additional possible cases are pending. (For updated information, visit the WHO Web site at <http://www.who.int/en/>).

With the exception of the family cluster in Vietnam, it is believed that all human H5N1 cases resulted from contact with infected birds or surfaces contaminated with excretions from infected birds. At this time, there is no evidence of efficient person-to-person transmission in Vietnam or elsewhere.

Genetic sequencing of H5N1 viruses from human cases in Vietnam indicates that all genes are of avian origin. (The acquisition of human influenza viral genes increases the likelihood that a virus of avian origin can be readily transmitted from person-to-person). Genetic sequencing of human H5N1 isolates from Vietnam additionally showed characteristics commonly known to confer antiviral resistance to amantadine and rimantadine, two antiviral drugs used for influenza. The remaining two antivirals (oseltamivir and zanamavir) should still be effective.

Enhanced Surveillance and Diagnostic Evaluation for Influenza A (H5N1) Virus Infections

Enhanced surveillance efforts by hospitals and clinicians will help to identify patients at increased risk for influenza A (H5N1). Consultation with your local health department is recommended for advice on diagnostic testing and specimen submission for patients with:

- a. radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternate diagnosis has not been established, **AND**
- b. a history of travel within 10 days of onset of symptoms to a country with documented H5N1 avian influenza in poultry and/or humans (consult with your local health department to determine countries of concern).

Testing for influenza A (H5N1) should be considered on a case-by-case basis in consultation with your local health department for **hospitalized or ambulatory** patients with:

- a. documented temperature of $>38^{\circ}\text{C}$ ($>100.4^{\circ}\text{F}$), **AND**
- b. one or more of the following: cough, sore throat, shortness of breath, **AND**
- c. history of contact with domestic poultry (e.g., visited a poultry farm, household raising poultry, or bird market) **OR**
- d. history of contact with a known or suspected human case of influenza A (H5N1) in an H5N1-affected country within 10 days of symptom onset.

Infection Control Precautions for Influenza A (H5N1)

All patients who present to a health-care setting with fever and respiratory symptoms should be:

- managed according to previous recommendations (see CDHS [SARS Surveillance & Response Planning Guide for California Health Care Facilities](http://www.dhs.ca.gov/ps/dcdc/disb/sars.htm) at www.dhs.ca.gov/ps/dcdc/disb/sars.htm or CDC [Respiratory Hygiene and Cough Etiquette](http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm) at www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm), and
- questioned regarding recent travel history.

Isolation precautions identical to those recommended for SARS should be implemented for all hospitalized patients diagnosed with or under evaluation for influenza A (H5N1) as follows:

- Standard Precautions
 - Pay careful attention to hand hygiene before and after all patient contact
- Contact Precautions
 - Use gloves and gown for all patient contact
- Eye protection
 - Wear face mask or goggles when within 3 feet of the patient
- Airborne Precautions
 - Place the patient in an airborne isolation room (i.e., monitored negative air pressure in relation to the surrounding areas with 6 to 12 air changes per hour).
 - Use a fit-tested N-95 or higher level of respiratory protection when entering the room.

These precautions should be continued for 14 days after onset of symptoms, or until an alternative diagnosis is established or until diagnostic test results indicate that the patient is not infected with influenza A virus (see Laboratory Testing Procedures below). Patients managed as outpatients or hospitalized patients discharged before 14 days should be isolated in the home setting on the basis of previous recommendations by CDHS for the home isolation of SARS patients (see <http://www.dhs.ca.gov/ps/dcdc/disb/sars.htm> and consult your local health department).

Laboratory Testing Procedures for Influenza A (H5N1)

Specimens should be obtained and tested for influenza by PCR via the local health department laboratory (who can perform PCR or forward to a regional lab with that capability). Specimens from suspect H5N1 or SARS cases may be tested by PCR in Biosafety Level (BSL) 2 laboratories in a class II biological safety cabinet. Rapid antigen methods for influenza may be done under BSL 2 levels. Hospital, private, and local public health laboratories should **NOT** attempt culture from these specimens. BSL 3+ laboratory conditions are required for viral culture of suspect H5N1 and are highly recommended for SARS CoV. Specimens from patients that test positive for influenza A by PCR should be forwarded from local public health laboratories to the state virus laboratory for further characterization. Please see the California Department of Health Services website for more information about surveillance for influenza A H5N1 (<http://www.dhs.ca.gov/ps/dcdc/VRDL/html/FLU/Flu-h5n1.htm>).

As the clinical presentation and travel history of persons with influenza A (H5N1) or SARS may overlap, testing for SARS-CoV should be considered in select patients after consultation with the local health department.

Severe Acute Respiratory Syndrome

On January 31, 2004, WHO announced that a new case of laboratory-confirmed infection with SARS-associated coronavirus (SARS-CoV) had been reported in China. This is the fourth SARS case (three confirmed, one probable) reported in China since December 16, 2003. All four patients have recovered from their illness and have been discharged from the hospital. To date, none of the contacts of these cases has developed a SARS-like illness. The source of infection in these individuals has not been determined.

Due to the ongoing occurrence of SARS in China, CDC continues to recommend consideration of testing for SARS-CoV in patients who require hospitalization for radiographically confirmed pneumonia or ARDS without an identifiable etiology **AND** who have one of the following risk factors in the 10 days before the onset of illness:

- Travel to mainland China, Hong Kong, or Taiwan, or close contact with an ill person with a history of recent travel to one of these areas, **OR**
- Employment in an occupation associated with a risk for SARS-CoV exposure (e.g., health care worker with direct patient contact; worker in a laboratory that contains live SARS-CoV), **OR**
- Part of a cluster of cases of atypical pneumonia without an alternative diagnosis.

For patients with pneumonia or ARDS who have recently traveled to Guangdong Province, China, diagnostic testing for SARS-CoV should be performed immediately. **All testing for SARS-CoV should be coordinated through your local health department.**